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# DOES TOUCH HAVE A PLACE IN INTERPRETATION? RESEARCHING THE ROLE OF APPROPRIATE INTERPERSONAL TOUCH (AIT) IN INTERPRETIVE PROGRAMS

Mickey Shortt Jr.

Stephen F Austin State University, shorttma@yahoo.com

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# DOES TOUCH HAVE A PLACE IN INTERPRETATION? RESEARCHING THE ROLE OF APPROPRIATE INTERPERSONAL TOUCH (AIT) IN INTERPRETIVE PROGRAMS

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DOES TOUCH HAVE A PLACE IN INTERPRETATION?  
RESEARCHING THE ROLE OF APPROPRIATE INTERPERSONAL TOUCH (AIT)  
IN INTERPRETIVE PROGRAMS

By

MICKEY SHORTT, JR., BACHELOR OF SCIENCE

Presented to the Faculty of the Graduate School of

Stephen F. Austin State University

In Partial Fulfillment

Of the Requirements

For the Degree of

MS Resource Interpretation

STEPHEN F. AUSTIN STATE UNIVERSITY

May 2017

DOES TOUCH HAVE A PLACE IN INTERPRETATION?  
RESEARCHING THE ROLE OF APPROPRIATE INTERPERSONAL TOUCH (AIT)  
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MICKY SHORTT, JR., BACHELOR OF SCIENCE

APPROVED:

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Dr. Shelby Gull Laird, Thesis Director

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Dr. Pat Stephens Williams, Committee Member

---

Dr. Ray Darville, Committee Member

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Richard Berry, D.M.A.  
Dean of the Graduate School

## ABSTRACT

The role of interpersonal touch has been studied in communication fields, demonstrating a handshake or other form of appropriate interpersonal touch (AIT) has rendered favorable results in rapport building with an audience as well as developing audience comfort and receptivity to messaging. This study aimed to determine if the use of a handshake prior to interpretive programming would increase the positivity of perception of a visitor toward interpreters and/or the message shared by interpreters. Researchers also sought the viewpoints of professionals in the field of interpretation about the current use and perception of touch. Finally, a post-survey interview was conducted with each interpreter involved the study. Through three angles, the research demonstrated that AIT positively affects a visitor's perception of the interpreter and the message shared. The research also provides boundaries and next steps toward researching AIT's role in the field of interpretation.

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## CHAPTER 1

### Introduction

Research in several fields of study has shown the benefits of physical touch on establishing rapport and receptivity to messaging (Fisher, 1976; Wycoff & Holley, 1990; Routasalo, 1999). Researchers sensed that the intentional use of appropriate interpersonal touch (AIT) would provide a means of increasing credibility, encouraging receptivity to messaging, and generally increasing the effectiveness of interpretive programming. AIT may include a handshake, shoulder pat or other form of physical touch that is appropriate for the interpreter and audience. Strengthening the impact of and receptivity to interpretive programming may allow sites of natural and historic importance to be better understood and protected. The use of AIT in the field of interpretation has not been studied; this study was designed to discover the possible benefits of AIT within the field of interpretation.

### Purpose and Significance

The purpose of this study was to determine the effectiveness of AIT on a visitor's perception of the interpreter and the message shared by the interpreter. Using this, researchers hoped to establish an understanding of if and how AIT could be used effectively in the field of interpretation. The research established boundaries and best practices while providing an understanding of the current use and perceived future of interpersonal touch in the field.

### Objectives

The objectives of this study were: (1) to determine the current use of interpersonal touch in the field of interpretation, (2) to determine whether AIT affects the perceived credibility of the interpreter (3) to determine whether AIT affects the perceived credibility of the message, and (4) develop boundaries and guidance for the use of AIT in the field of interpretation.

## CHAPTER 2

### Literature Review

Resource interpretation, whether personal or non-personal, seeks to “forge emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource” (Brochu & Merriman, 2002). From a park management perspective, it is the interpreter’s role to provide a deeper visitor experience and encourage visitors to care for park resources (Lacome, 2007). Communicating the significance and relevance of resources allows visitors to develop a personal connection with the resources and support the mission of the organization or agency (Ham, 2013). This ensures the long-term support and relevance of park resources.

Interpretation is a multifaceted communication process; a host of factors determine the effectiveness and receptivity of a program (Stern & Powell, 2013). These include the knowledge of the interpreter, knowledge of the audience, and effective techniques and methods (Lacome, 2002). Other, less obvious factors are also involved: perception of the interpreter, timing of the program, organization, and audibility among others (Stern & Powell, 2013). Of particular interest to this research is interpreter credibility, especially when interpreting controversial topics.

### Interpretation Best Practices

Stern and Powell (2013) conducted on the effectiveness of interpreters; one of the areas examined in their study was the identity of the interpreter. The visitor's perception of the interpreter, referred to in their study as the "primary identity," can range from "friend" to "authority" figure to "walking encyclopedia." When the interpreter took on the "friend" identity, the program had higher satisfaction scores than those where the interpreter was considered an "authority" or "walking encyclopedia." One idea that emerged from this research was the need to understand what the markers are in an interpretive program that distinguishes excellence. One of the most statistically significant factors was whether the interpreter was perceived as a "friend." To this end, one would gather that effectiveness of an interpreter is partially dependent on the visitor perception of that interpreter.

### Appropriate Interpersonal Touch

One area yet to be studied within the field of interpretation was the role of appropriate interpersonal touch (AIT) on the visitor's perception of the interpreter. For the purposes of this study, AIT is defined as touch that visitors can be comfortable receiving and that interpreters can be comfortable giving. Wood (1997) shows that a handshake or shoulder pat are accepted commonly as appropriate in teacher and student relationships. Research by Suvilehto et al. (2015) has shown that even people are comfortable with strangers touching their hand. However, there is research supporting the positive effects of physical touch in multiple areas (Gallace, 2010). Specifically, interpersonal touch—a pat on the back or handshake—has been shown to communicate

immediacy more quickly than language (Jones & Yarbrough, 1985). Developing rapport and establishing credibility are imperative for the success of an interpretive program (Stern & Powell, 2013). Physical touch may be a way to establish rapport, credibility and convey immediacy to park visitors. Previous research in other communication fields has shown that this is possible. Physical touch has been shown to engender positive feelings toward someone. A study conducted with librarians showed that students touched appropriately had greater positive feelings about the library than those not touched (Fisher, 1976). Interestingly, these positive feelings were established even though none of the students recalled being touched by the librarian. A similar study had flight attendants “accidentally” touch passengers on the shoulder or forearm during long-distance flights. Passengers completed an evaluation, and the results showed that the passengers who were touched rated their attendants more qualified, more professional, and the passengers felt safer than those who were not touched (Wycoff & Holley, 2010). With his research in mind, AIT may be another tool in the hands of interpreters to build constituency and open minds toward the importance of the park resources and site. In fact, one anthropologist has contended that “touch is ten times stronger than verbal or emotional contact” (Montagu, 1971). There is a strong need to explore this area as a tool in the field of interpretation.

### Boundaries in Touch

One of the limitations in touch is establishing what is appropriate and acceptable within the field. In fact, due to the concern of litigation, touch has been actively discouraged in many fields (Field, 2001). Part of this is cultural—the United States and

other western countries have an aversion or lack of comfort with touch (Jourard, 1966). Jourard's research on the role of touch in different cultures has shown that touch is accepted widely and engrained in some cultures and not utilized in others. In his research, couples in France and Puerto Rico touched one another over 100 times in a café setting while people in England and the United States used touch sparingly if at all in the same amount of time. Field (2001) has even coined the term "touch hunger" to illustrate the lack of interpersonal touch used in some societies. Even in a world where touch is not encouraged, it is hard to imagine a world without touch. Chapman (2012) who has recently authored a book that explores how to show appreciation to employees in the workplace was faced with the decision of whether to include physical touch as an expression of appreciation to employees in his book. The current climate concerning touch limits the acceptance of this form of communication. He decided, despite the concerns and boundary issues that existed, to include physical touch because it was such a powerful and necessary form of communication. With the inclusion, however, he communicated the boundaries necessary to establish the use of touch as a credible and safe form of communication. In his book, he included the use of a high five, hand shake, and pat on the back as safe forms of physical touch (Chapman, 2012). Additionally, research has indicated that the perception of touch (negative or positive) depends on the area of the body that is touched and the age, gender and relationship of the person who receives the touch (Gallace, 2010). For example, a touch on the face may be perceived as inappropriate for a coworker, but a handshake can be acceptable in the same setting.



While Field's research has examined the positive impact of touch on health and well-being, the field of interpretation seeks to connect people to parks and the resources therein.

To ensure that there are appropriate, clear boundaries in place, this research is focused on appropriate interpersonal touch (AIT) mainly in the form of a handshake or shoulder pat. These two forms of touch generally are accepted as reasonable and appropriate (Wood, 1997). Suvilehto et al. (2015) have further shown that even a stranger's touch on the hands is acceptable to most people.

The field of interpretation is a field ready to use physical touch for relationship-building and interpreter perception-shaping. Other fields have shown positive results when this form of communication was employed. Routasalo (1999) found that physical touch increased the positive affect toward the one touching. Customers touched by a car salesman rated the seller more positively than those who were not touched (Erceau & Guéguen, 2007). In a related field, an educator taught students to take their pulse. Some students were physically shown how to take their pulse which resulted in a touch by the professor. Students who were touched consistently rated their professor higher in terms of friendliness, teaching skill, and attitude. Though this was not a long-term study, the authors concluded that physical touch could build relationships between the teacher and student and help facilitate student learning (Legg & Wilson, 2012). This relationship-building tool has great implications and potential for the field of interpretation where the audience perception of the interpreter can impact the effectiveness of the program (Stern & Powell, 2013).

Examining the impact of AIT in interpretation has two natural existing platforms. Interpretation is a meaning-making process (Brochu & Merriman, 2002). During this process, interpreters must establish security and belonging within the visitor. This allows visitors to move higher on Maslow's hierarchy toward self-actualization, or meaning-making (Maslow, 1962). This relationship-building or rapport establishment typically occurs just before a program starts or in the first portion of a program when an audience is discerning how to perceive the interpreter. The time-period can be critical. Immediacy behaviors break boundaries in communication (Mehrabian, 1968). Eye contact, physical touch and smiling are examples of immediacy behaviors (Myers et al., 1998). So, giving a handshake or pat on the back to communicate acceptance and inclusion within the group early in the interpretive program may be an effective means of establishing security and building rapport. Ward and Wilkinson (2006) have assumed that general likeability may impact the outcome of a program. Other studies have suggested that audiences are more open with their instructor when immediacy behaviors are introduced (Finn et al., 2009). This is of particular interest with the growing trend in interpretation toward facilitated dialogue. This audience-centered program dynamic establishes the interpreter as a facilitator of a conversation rather than the one-to-many lecture style that has been employed in interpretation for years (National Park Service [NPS], 2014b).

The first step in this process of facilitating dialogue is to build community—a step in the process that allows visitors to feel secure enough to share their ideas. This must be established prior to visitors opening up to the rest of the group during a program. This is especially important as interpreters facilitate a program to interpret controversial topics

such as climate change, human-wildlife interaction and conservation practices (NPS, 2014a). Immediacy behaviors, such as AIT, prior to engaging in dialogue may allow interpreters to establish security and allow for more fruitful and genuine conversations.

The second platform that exists in the field of interpretation is credibility—especially as it relates to interpreting controversial topics. In the research, three areas or dimensions of credibility have been identified (Finn et al., 2009). Competence, trustworthiness and caring all have a role in how credible a visitor perceives the interpreter. Knowledge and the style of communication can affect the competence-perception of an interpreter. Trustworthiness can be indicated by an interpreter's appearance, their position title and personal interactions with the audience. Finally, caring is demonstrated with sincerity and the interpreter's interactions with the audience (Stern & Powell, 2013).

The latter two areas of credibility (trustworthiness and caring) could be impacted through AIT. In this case, if done well, touch may work in concert with immediacy behaviors and other factors to render interpreters more credible in the eyes of participants. Furthermore, timely and appropriate touch may serve as a means to break down ideological barriers in controversial interpretive topics. Using touch to facilitate responsiveness to certain content or spark dialogue may prove to be a powerful method of bridge-building with audience members.

The field of interpretation is a complex field that interprets natural and historical resources. Visitors engaged in park programming, as in all communication platforms, process the experience through a variety of filters. From prior research, the perception of

an interpreter can have strong effects on the overall satisfaction with the program.

Research in parallel fields has shown positive impacts from using touch in ecologically-valid conditions. Studying the implications of using AIT in an interpretive setting would provide a better means of establishing immediacy, rapport and credibility in the visitor.

To further extend understanding of AIT, this study sought to: (1) to determine the current use of interpersonal touch in the field of interpretation, (2) to determine whether AIT affects the perceived credibility of the interpreter (3) to determine whether AIT affects the perceived credibility of the message, and (4) develop boundaries and guidance for the use of AIT in the field of interpretation.

## CHAPTER 3

### Method of Study

To discern the role of AIT in the field of interpretation, researchers developed and implemented a three-part study. Part one consisted of a focus group of four interpreters sharing their previous experience and understanding using AIT. Researchers conducted this study first in order to get a baseline understanding of the use of AIT in the field. The second study conducted was a field-based, mixed-methods study to discern the impact of AIT on interpretive program participants. Finally, as a follow-up, researchers interviewed the four interpreters who led the programs that were part of the second study to understand how they perceived the use of touch in the field as well as during the study.

#### Survey Site Selection

The Grandfather Mountain Stewardship Foundation is a 720 acre non-profit nature park in western North Carolina. The park is located near the town of Boone, NC in the southern Appalachians (Figure 1). Early visitors to the mountain included Andre Michaux, Asa Gray and John Muir (Grandfather Mountain Stewardship Foundation, 2017). These naturalists visited the park due to the significant plant diversity. Today, nearly 250,000 visitors pass through the entrance gates annually to view the mountainous landscape from the park's overlooks, hike trails within the park and the adjoining state park, and view the park's wildlife (Grandfather Mountain Stewardship Foundation, 2011).

The park provides easy automobile access to high elevations (over 5,000 feet) and offers visitors amenities not commonly found in such a rugged environment. The park's mission statement of "inspiring conservation of the natural world by helping guests explore, understand and value the wonders of Grandfather Mountain" is partially fulfilled by the park's education staff. This staff offers several animal encounter interpretive talks daily from April 1 through October 31, led naturalist interpreters (Figure 2). Several of the park's education staff are Certified Interpretive Guides (CIG) through the National Association for Interpretation (NAI), so they are acquainted with the practice of interpreting park resources. Naturalist education staff have been presenting programs in the park for over ten years. This site provided an adequate survey sample to determine the effects of interpersonal touch on the credibility of interpreter and the perception of the content. Data collection was conducted during the month of October 2016.



*Figure 1: Survey site location in North Carolina*



*Figure 2: Park interpreter conducting an interpretive talk at the survey location*

#### Focus Group Study Methodology

To get in touch with the interpretive community and the use of appropriate interpersonal touch, a small focus group was formed to discern the limitations, opportunities and current use of touch in the field. A short questionnaire presented four frontline interpreters with three questions relating to the use of AIT in interpretive settings (Figure 3). AIT was defined to ensure that there was a boundary presented to touch, so interpreters knew the appropriate forms of touch. The questionnaire was intentionally sent to people that had different backgrounds and experiences. Two members of the focus group were frontline interpreters and graduate students; this

provided both an academic and practitioner view. Another participant has served over ten years as an interpretive supervisor while another has served in the field in multiple

Focus Group Questions for Interpreters:

Appropriate interpersonal touch can be defined as a touch, handshake or shoulder pat, that may communicate warmth, acceptance and belonging to visitors. This form of communication could be used in establishing credibility, developing rapport or ensuring visitors are secure prior to a program or during informal interpretive exchanges.

1. Do you think AIT could or should be used as a means of establishing credibility or rapport with a visitor?
2. Why don't you think appropriate interpersonal touch (AIT) has been studied or implemented as a practice in the field of interpretation?
3. If you have practiced frontline interpretation, how often have you used AIT in interpretive programming and/or informal interactions in the past?

Please **bold** your response.

Never	Rarely	Sometimes	Often	Always
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*Figure 3: Focus group survey aimed to understand the current used of AIT in the field of interpretation*

capacities in varying organizations and the National Park Service. Three participants were under thirty and one was over sixty. This form (Figure 3) was sent by e-mail to the focus group and saved electronically following receipt from participants.

### Mixed Methods Survey Methodology

Researchers used a survey instrument to measure each visitor's perception of an interpreter and the interpreter's message in control and experimental groups. Both groups took part in an interpretive talk about black bears that intentionally included a controversial topic (such as climate change or hunting). This program was regularly



offered in the animal habitats area of the park and interpreted the wild lives of black bears including diet, population changes, physical features and seasonal behaviors. All adult participants in the experimental group received a welcome handshake prior to the program. To ensure everyone received a handshake, the interpreter moved to a pathway where he or she could greet each person attending the program with a handshake. At the point when the program was scheduled to start, the interpreter made an announcement to ensure visitors were aware that they could take a survey following the conclusion of the program. This ensured that any late-comers in the experimental group did not participate in the survey. Each person was asked prior to turning in their survey if they heard the survey announcement to ensure they received the handshake and viewed the full program. Researchers also included a question in part 4 (experimental group only) of the survey that determines if the visitor received the handshake; this part of the survey was completed following the first three parts. Control groups received the same programming without being touched.

### Survey Instrument

Following the program, surveys were available to participants to measure the participant's perception of the interpreter and message using a Likert-scale built on a credibility study by Appelman and Sundar (2016). Appelman and Sundar examined numerous descriptors to distill the best adjectives available to describe both an individual's credibility and the credibility of the message. These researchers used news articles to test the reader's perception of the articles; they concluded by postulating that credibility could be gauged using the adjectives they determined (accurate, authentic,

believable) on a Likert-type scale. For the purposes of this study on AIT, researchers made a slight modification to their scale to increase resolution by changing “very well” to “extremely well.” For source credibility (for researchers’ purposes, the interpreter), they provided the adjectives “reliable,” “authoritative,” “reputable,” and “trustworthy.” These adjectives were used on a Likert-type scale to determine source credibility. The survey instrument constructed for this study used these seven adjectives to measure the visitor’s perception of the message and the interpreter. Demographic data was also recorded on the surveys; visitors checked boxes indicating their age, gender, race and ethnicity. This portion of the survey was set up according to the 2010 US Census form (U.S. Census Bureau, 2010). In order to determine a visitor’s perspective on the impact of AIT, the back of the survey for the experimental group included two additional questions: “Do you think [the handshake] affected your perception of the message the interpreter provided?” and “Do you think [the handshake] affected your perception of the interpreter?” Survey participants could check “yes” or “no” in response to these questions; there was also an option for a visitor to explain “why or why not” to both of their answers.

### Survey Logistics

To determine the sample size, researchers used a margin of error calculator provided by the American Research Group, Inc. (2000). Sample size was based on the 2016 projected annual number of participants in educational programming in this area of the park: 57,500. Researchers chose to survey at least 400 participants, attending programs with four separate interpreters, which gave a margin of error of +/- 5.64% at the

95% confidence interval. The intended survey had half of the participants surveyed in the control group and the remaining in the experimental group. Two interpreters were male and two were female; all interpreters were white and non-Hispanic. Two of the interpreters had over ten years of experience in natural resource interpretation while the other two had more than three years of experience. All participants in the survey were adults—age 18 and older. This was clarified in the announcement to potential participants. These groups were surveyed with the interpreters alternating between control and experimental groups on the same day. Typically each interpreter led both a control and experimental program daily.

#### Data Treatment

A record of each survey was paired with a program form in order to ensure surveys were kept with the correct group; to this end a data sheet was completed prior to conducting the survey and completed surveys were filed in a folder with the data sheet. Each program and corresponding surveys were assigned a number for filing. Any incomplete surveys lacking scores were withdrawn from the dataset. Any surveys in the experimental group that did not record that they had received a handshake were also withdrawn from the dataset. Each variable (adjectives and demographic information) was given a label; the responses were converted to a number and entered into IBM® SPSS® Statistics Version 24 for analysis and a data file was created.

#### Pilot Study

For the field-based data collection, researchers conducted a short pilot study to ensure the methodology was feasible and to gain a better understanding of the surveying

process. This pilot study was conducted on September 23, 2016 in order to go through the full process of collecting surveys from the park visitors attending programs. Interpreters went through the process of sharing the opportunity to participate in the study with park visitors and collected surveys from visitors attending to interpretive programs in the park. From this study, they developed a protocol for announcing the opportunity to complete a survey, established how to share and enforce the age limit, established ways of ensuring each visitor received a handshake in the experimental group, and developed the timing of the announcements and survey collection. The researchers also developed a checklist of items to review with the interpreter and with audience members to ensure consistency in the process. Ten surveys were collected as part of this pilot test; each survey was completed appropriately which allowed them to solidify the format and wording of the survey instrument. Following this pilot study, researchers held a training that covered the various aspects of the interpreter's role in the data collection.

### Hypotheses

Researchers hypothesized that using a handshake prior to an interpretive program would significantly increase the positive perception that adult visitors have toward a park interpreter compared with visitors not receiving a handshake. Additionally, they hypothesized that using a handshake prior to a program would significantly increase the believability of a message shared by an interpreter.

## CHAPTER 4

### Results

As noted in the methodology, the researchers conducted three congruent studies to gauge the use and impact of AIT in interpretive programs. The results of each of these studies are found below.

#### Study 1: Focus Group Study Results

Upon receipt of the focus group's responses to the survey, researchers saved responses and looked for themes in their responses. Collectively, participants agreed that AIT could be used as a means of establishing credibility or rapport with visitors. One participant expanded that the handshake is the most likely platform for AIT to establish credibility or rapport, though there are challenges with using this in informal settings with introverted people. When considering why AIT has not been studied or implemented, participants referenced how it could be viewed as inappropriate or presented the potential challenges associated with children. Another participant shared that the reason it was not used was because of societal norms: "we are a hands-off society." These comments were certainly consistent with the reviewed literature about touch. Interestingly, participants shared that they have used AIT in an informal or formal programming setting. Based on the responses to the survey, frontline interpreters are open to the use of AIT as a means of establishing credibility or rapport. Researchers understood that AIT has boundaries that

need to be clear. Practitioners also affirmed that AIT is currently being used in the field, though it is not clear if this is intentionally used or if it is part of normal communication that is established within the interpreter.

### Study 2: Mixed Methods Study Results

After collecting over 450 completed surveys, researchers sorted through the completed surveys to determine which ones were completed fully. Over 40 surveys were withdrawn from the dataset. Most of these withdrawn surveys were completed incorrectly—such as marking the score in the example box rather than with each adjective. Several of these removed surveys were in the experimental group yet visitors checked that they did not receive a handshake. After manually sorting through the surveys, the scores of 404 surveys were entered into IBM® SPSS® Statistics Version 24 for analysis (Table 1). Adjectives were coded based on whether they were measuring content or the interpreter. The “accurate” adjective was coded as Content Score 1 while “trustworthy” was coded as Interpreter Score 4. Researchers also coded the averages into their own entry: Content Score or Interpreter Score. Other variables entered included the interpreter number (1-4), gender of interpreter, and group type (control or experimental). Age group, gender, race and ethnicity of the participant were all entered as well.

Surveys that were incomplete (did not score the content or interpreter) or that did not acknowledge receiving a handshake in the experimental group were not used in statistical tests. Surveys that were only missing demographic data were retained for analysis. Each variable was assigned in SPSS and the scores for each variable were entered.

Table 1. Sampling groups for control and experimental groups

	Male Interpreter 1 (M1)	Male Interpreter 2 (M2)	Female Interpreter 1 (F1)	Female Interpreter 2 (F2)	Total
Experimental Group	N=51	N=46	N=37	N=40	N=174
Control Group	N=58	N=57	N=65	N=50	N=230
Total	N=109	N=103	N=102	N=90	N=404

Table 2. Ages of survey participants

Age Group	Frequency	Percent of Total
18-29	66	16.3
30-49	155	38.3
50-69	160	39.6
70 or over	21	5.2
Missing	2	0.0
<b>Total</b>	<b>404</b>	<b>100</b>

Table 3. Gender of survey participants

Gender	Frequency	Percent of Total
Female	236	58.4
Male	142	35.1
Missing	26	6.4
<b>Total</b>	<b>378</b>	<b>100</b>

Table 4. Race of survey participants

<b>Race</b>	<b>Frequency</b>	<b>Percent of Total</b>
American Indian or Alaska Native	1	0.2
Asian	8	2.0
Black or African American	7	1.7
Native Hawaiian or Other Pacific Islander	1	0.2
White	369	91.3
Other	8	2.0
Missing	10	2.5
<b>Total</b>	<b>404</b>	<b>100</b>

Table 5. Ethnicity of survey participants

<b>Ethnicity</b>	<b>Frequency</b>	<b>Percent of Total</b>
Hispanic	16	4.0
Non-Hispanic	232	93.5
Missing	156	38.6
<b>Total</b>	<b>404</b>	<b>100</b>

After this process, 230 surveys were used in the control group and 174 surveys were used in the experimental group. Most participants (78%) who completed surveys were between 30 and 69 years old. The median age was the 30-49 year old group (Table 2). Of those who recorded their gender, 38% were male and 62% were female (Table 3). Most participants who recorded race were white (94%) (Table 4). A small percentage of participants that completed surveys and recorded ethnicity were Hispanic (6%) (Table 5).



Researchers used a t-test to compare means between the control and experimental groups. Because the data set was such a large sample, a t-test was appropriate for use in statistical analysis. The t-test revealed higher means in the experimental group compared with the control group for all content and interpreter scores (Table 6). Significance (p) values were very low which indicates a high degree of statistical significance from the t-test. In order to understand the degree of difference between the control and experimental groups, the researchers calculated the mean differences in scoring. Differences in means between the control and experimental group ranged from 0.20 (the scoring for the adjective “Authoritative”) to 0.11 (the scoring for the adjective “Reliable”). The highest scored adjective was “Believable” with mean scores of 6.71 and 6.84 in the control and experimental groups respectively. The lowest scored adjective was “Authoritative” with mean scores of 6.4 and 6.6 in the control and experimental groups, respectively. Additionally, researchers calculated Cohen’s *d* to understand the standardized difference between means in the control and experimental group averages. The Cohen’s *d* values for the average content score and average interpreter score were 0.327 and 0.277, respectively.

To be thorough, researchers ran statistical tests to ensure the normality of the data. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests of normality showed the data was not normally distributed. Accordingly, running the Mann-Whitney statistical test in SPSS which confirmed the t-test results—it revealed higher means in the experimental group and low p-values.

Table 6. T-test results comparing means of scores in the control and experimental groups (equal variances not assumed for significance values)

	Group Type	N	Mean	Mean Difference	SD	Std. Error Mean	p (2-tailed)
<b>Content Score (Average)</b>	Control	230	6.61	0.18	.660	.044	.001
	Experimental	172	6.79		.411	.031	
Content Score 1 "Accurate"	Control	230	6.56	0.19	.726	.048	.002
	Experimental	172	6.75		.497	.038	
Content Score 2 "Authentic"	Control	230	6.57	0.19	.811	.053	.003
	Experimental	172	6.76		.514	.039	
Content Score 3 "Believable"	Control	230	6.71	0.13	.625	.041	.008
	Experimental	173	6.84		.395	.030	
<b>Interpreter Score (Average)</b>	Control	230	6.59	0.15	.583	.039	.008
	Experimental	173	6.74		.493	.037	
Interpreter Score 1 "Authoritative"	Control	230	6.40	0.20	.937	.062	.017
	Experimental	173	6.60		.730	.056	
Interpreter Score 2 "Reliable"	Control	230	6.69	0.11	.535	.035	.032
	Experimental	173	6.80		.494	.038	
Interpreter Score 3 "Reputable"	Control	230	6.62	0.16	.668	.044	.008
	Experimental	173	6.78		.559	.042	
Interpreter Score 4 "Trustworthy"	Control	230	6.70	0.12	.571	.038	.016
	Experimental	173	6.82		.467	.035	

Researchers ran a t-test to compare the interpreter's gender on the scores. P-values were very high (not significant) in both control and experimental groups (from 0.171 to 0.844). They also ran a t-test to discern if participant gender impacted scores; overall, females rated the interpreters higher than males in both control and experimental groups (Table 8). The difference in mean values ranged from 0.45 (the scoring for the adjective "Authoritative") to 0.12 (the scoring for the adjective "Believable"). P-values less than 0.03 showed results were statistically significant. To compare scores among the

four interpreters, researchers ran a Kruskal-Wallis test and compared content and interpreter scores in both the control and experimental groups. Though there were apparent differences in the scores that were consistent across all categories, the significance value for most of these was too high to attribute statistical significance. Ethnicity did not impact scores according to statistical results with p-values ranging from 0.144 to 0.606. The ANOVA test comparing means for race had one statistically significant value (interpreter score 3), but all other p-values were higher than 0.05. They were also unable to find strong statistically significant ( $p < .05$ ) results when comparing the differences in control and experimental groups scoring with interpreter gender or participant age using t-tests and ANOVA tests. Participant gender had one score that rendered a p-value less than 0.05; others p-values were substantially higher. To determine if other demographic variables worked in concert with one another to impact the scoring, they ran a two-way ANOVA tests using gender and age as fixed factors for both average interpreter score and average content score. The results from these tests showed that gender and age independently impacted the average interpreter scoring (Table 7) while gender impacted average content score.

Table 7. ANOVA test analyzing age and gender relationship to interpreter scoring

Source	Sum of Squares	df	Mean Square	F	p
Corrected Model	13.836 <sup>a</sup>	7	1.977	6.965	.000
Intercept	8441.068	1	8441.068	29743.894	.000
Age	3.731	3	1.244	4.382	.005
Gender	6.295	1	6.295	22.183	.000
Age*Gender	1.203	3	.401	1.413	.239

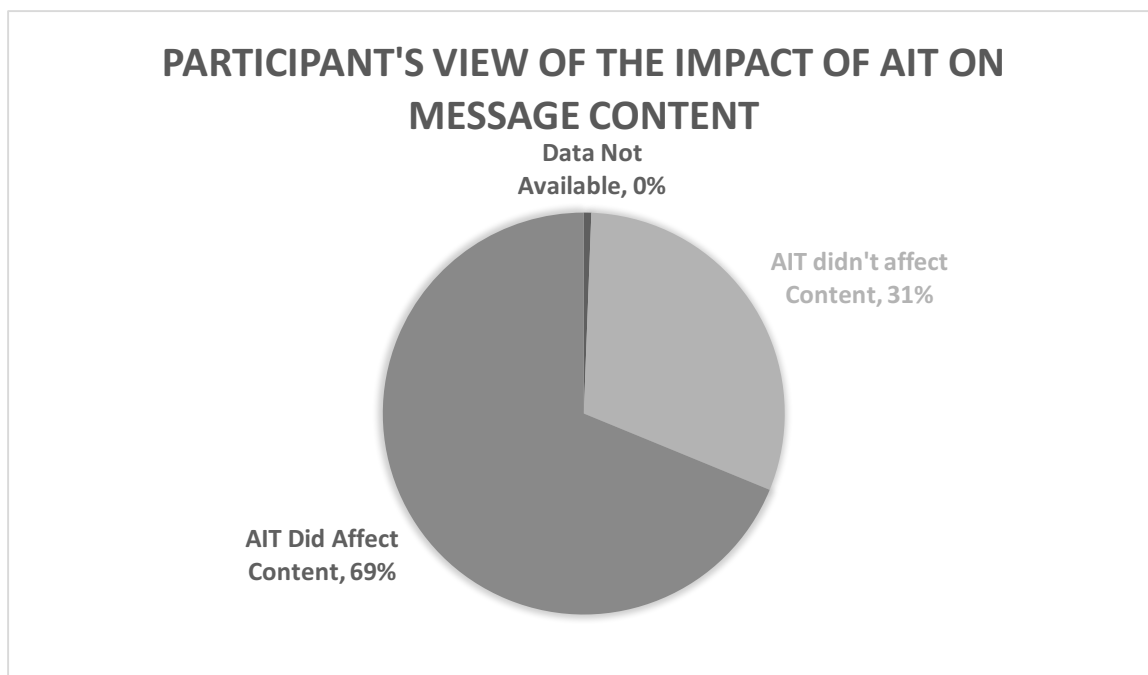
Table 8. T-test comparing means of female and male participants

	Gender	N	Mean	Mean Difference	Std. Deviation	Std. Error Mean	p (2-tailed)
Content Score (Average)	Female	234	6.77	0.20	.452	.030	.000
	Male	142	6.57		.566	.047	
Content Score 1 "Accurate"	Female	234	6.74	0.26	.504	.033	.000
	Male	142	6.48		.681	.057	
Content Score 2 "Authentic"	Female	234	6.74	0.23	.570	.037	.002
	Male	142	6.51		.770	.065	
Content Score 3 "Believable"	Female	235	6.82	0.12	.419	.027	.023
	Male	142	6.70		.532	.045	
Interpreter Score (Average)	Female	235	6.76	0.32	.439	.029	.000
	Male	142	6.44		.674	.057	
Interpreter Score 1 "Authoritative"	Female	235	6.63	0.45	.668	.044	.000
	Male	142	6.18		1.089	.091	
Interpreter Score 2 "Reliable"	Female	235	6.82	0.26	.429	.028	.000
	Male	142	6.56		.635	.053	
Interpreter Score 3 "Reputable"	Female	235	6.81	0.36	.482	.031	.000
	Male	142	6.45		.795	.067	
Interpreter Score 4 "Trustworthy"	Female	235	6.82	0.21	.467	.030	.001
	Male	142	6.61		.629	.053	

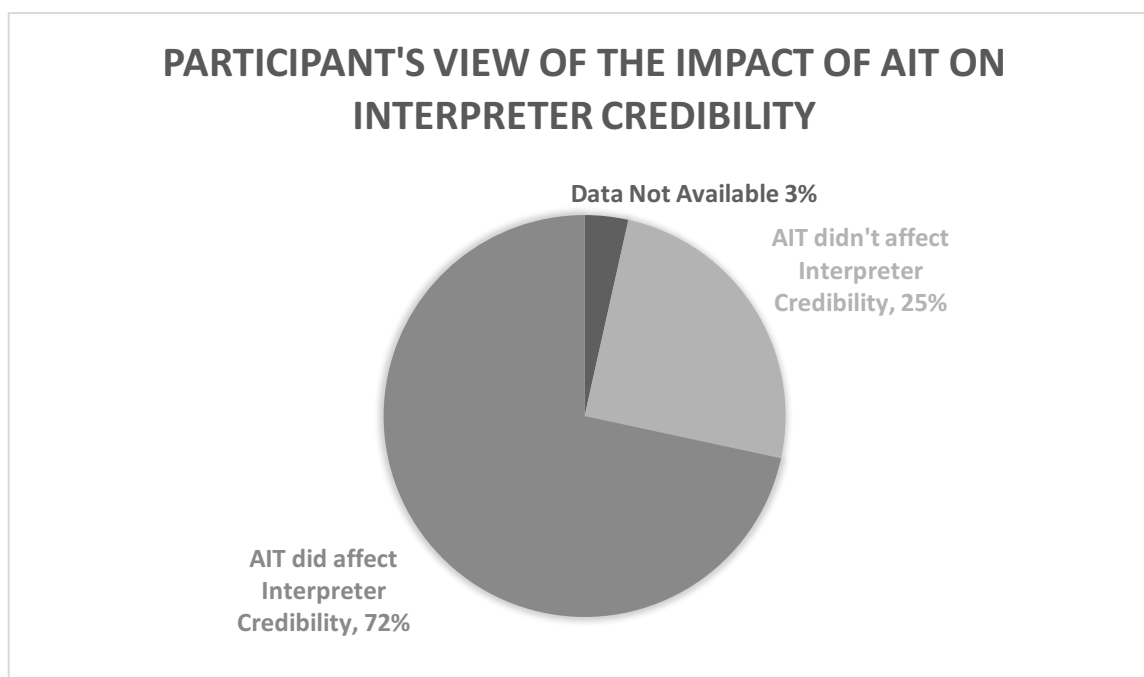
### Study 2: Qualitative Mixed Methods Study Results

The survey had a qualitative component in order to understand how visitors perceived the impact of AIT in the program. Visitors were asked to respond to three questions regarding the use of a handshake only after completing the first portion (quantitative scoring section) of the survey. When asked if the handshake had an impact on their perception of the message (content) of the interpreter, 69% answered "yes" (Figure 4). When asked if the handshake had an impact on the perception of the

interpreter, 72% answered “yes” (Figure 5). Eighty-six people responded with comments about whether the use of a handshake impacted their perception of the content and of the interpreter. The word “personal” was found 30 times in the 86 entries and “personable” was found 19 times. Several participants shared that the handshake “made it more personal.” Other common themes in the comments were centered around how “approachable” the interpreter was with the handshake and how the handshake communicated that the interpreter was “welcoming.” One visitor shared that the interpreter “came across as very sincere and approachable.” This approachability was linked to feeling more comfortable asking questions during and after the program several times. Another participant shared that the touch “provided a connection and introduction that helped make questions easier to ask.” A few visitors commented on how the handshake did not affect their perception, and one visitor made a comment that indicated concerns over germ dispersal.



*Figure 4.* Percent of participants who thought AIT impacted their perception of content



*Figure 5.* Percent of participants who thought AIT impacted their perception of the interpreter

### Study 3: Post-Study Interpreter Interview Results

Following the mixed-methods study, researchers interviewed the interpreters who participated in the study to ascertain their views of the use of touch in their interpretive programs. The researcher used a standard set of three questions and recorded the audio of each of the interpreters' responses to the questions. Following this, researchers transcribed the interviews. In general, the interpreters commented on the awkwardness of giving handshakes to large groups and shared their interest in using the tool for small groups. One interpreter recognized that their comfort with this changed over the course of the study: "at first seemed like an awkward imposition, but I got more comfortable with it." That same interpreter, M2, shared that their "impression is that it got people more receptive to the message and they certainly got comfortable...that connection somehow seemed to open up the gate for a lot more post-[program] discussion." The future use of AIT in small groups was brought up in every interpreter interview.

Interpreter F2 shared that "I really got to see that when I used it with a smaller group that it seemed there was this positive effect and that there was more buy-in. More of them wanted to do the survey afterwards and all kinds of things. Since then, when I have had smaller groups—like for the Wonders of the Winter World [program]—I have done that. It doesn't seem to be out of place. It seems to be very welcoming and well-received. I don't think that I will use it with groups larger than say 10 people." When M1 was asked about using AIT in the future, they shared "I plan to use it in the future—maybe not as much on that high of a level. If there are smaller groups—say maybe up to 5-15 individuals, I definitely think that is well within reason." A common concern was using

AIT with large groups that limited the interpreter's ability to establish a deep rapport. F2 shared their concern that "it's more of the fact that I need to shake everybody's hand—not just one or two people that I'm talking to and getting a rapport with [that makes it uncomfortable]." F1 also cited concerns about people who don't want to shake hands due to fears of getting sick. M1 commented that it's a "great tool for interpreters in the field" and that "when it's used correctly, it is very valuable."



## CHAPTER 5

### Discussion

From the results of each of the parts of this study, researchers recognized that AIT is currently used in the field without a lot of guidance and training from supervisors, that AIT positively impacts the visitor's perception of the interpreter and the message, and that interpreters feel that AIT use is best used in small groups in the formal interpretive talk setting.

In the focus group study, researchers gained a better understanding of the current use of AIT from the frontlines of interpretation: interpreters are routinely using AIT in the field and believe that it can be used as a means of establishing credibility. Other questions emerged from the focus group's responses: if AIT is currently being used in the field, is it being used intentionally or is it a habit that is part of the normal way of interacting and communicating with others? From what researchers gathered, AIT is driven by the interpreter's personality and personal relationship skills rather than from purposive inclusion in park training.

Another aspect of the use of AIT that the focus group interpreters dealt with in this study was boundaries. FG-1 and FG-2 both cited examples of boundaries in their responses centered around children. Researchers recognized this limitation in designing the field study by excluding children from the experimental group. They also noted the limitation of where people were comfortable being touched. FG-1 and FG-4 both

mentioned a handshake in their responses as being a possible acceptable form of touch. It is clear from these studies that establishing boundaries on the use of touch is important—Suvilehto's (2015) research shows that a touch on the hand is the most accepted form of touch. It is worth noting that there are other culturally acceptable forms of touch such as a shoulder pat, but for the sake of continuity, researchers chose to only test a handshake as the AIT in question. A shoulder pat may also alleviate concerns over germ dispersal.

The mixed-methods field study was set up to discern whether AIT had an impact on the perceived credibility of the interpreter and on the perceived credibility of the message conveyed. Researchers thought, based on prior studies and personal experience, that AIT would have a positive impact on both aspects of an interpretive program. Researchers particularly were interested in credibility because prior research shows how necessary it is for the success of programs—particularly the openness of an audience and the response to a program. After examining the results, two primary research questions (whether AIT impacted the perceived credibility of the interpreter and the perception of the content's accuracy) were understood to be answered.

According to the results, AIT positively impacted perceived credibility of the interpreter. All four adjectives used to rate the interpreter yielded higher values, with statistically significant p-values (0.008 to 0.032) to support these higher scores. The Cohen's *d* value of 0.277 indicates the impact of AIT is overall small but significant. This demonstrates that perceived credibility of an interpreter can be altered by something other than what is spoken: AIT. Interpreters may take note that establishing credibility, in some cases, begins before anything is said in an interpretive program. While a

handshake may not be the only technique at work in these settings, it does work in concert with other immediacy behaviors (eye contact, small talk, and other gestures) to lead visitors to view or rate an interpreter more favorably. Again, if looking across disciplines in previous research, a visitor's perception of the interpreter is linked to greater receptivity and response to the program message from audience members.

The mixed-methods field study also produced an understanding that AIT may affect the perception of the content's accuracy as well. This was true for all the scores for the three adjectives used to measure the perception of the content. The Cohen's *d* value of 0.327 and p-values between 0.002 and 0.008 indicate that AIT has a small but significant effect. While researchers recognize the importance of proper research and communication by an interpreter to share content and meanings, this does demonstrate that visitors make determinations of accuracy with filters other than what is articulated. Knowing this, it is important to establish a strong first impression connection with visitors. Synthesized with the Stern and Powell study (2013), AIT may be a way of demonstrating confidence toward a visitor, which was the strongest contributor to positive program outcomes (in visitor satisfaction, visitor experience and appreciation, and behavioral intentions of the visitor).

The qualitative portion of the survey that the experimental group participated in yielded interesting results as well. This portion of the survey explored the view that visitors had of the impact of touch on them. This angle of the study sought to determine whether quantitative results matched qualitative results. As a means of concession, researchers recognize this method of gathering information is not the strongest. It

operates on the premise that asking people questions will turn up valid answers. Philip Graves (2010), author of *Consumerology*, shares that this process of asking people questions “isn’t likely to lead to genuine insights”. Nonetheless, at minimum, most people shared they were aware of the positive impact of AIT on their experience. In addition to most visitors checking that they thought AIT impacted their perception of the interpreter and the perception of the message, many visitors made comments that gave insight into why they thought it affected them. One visitor commented that “physical contact creates a bond no matter how short the contact.” While these responses like this one could be viewed as preconceived, positive comments do show that interpreters are viewed favorably—regardless of whether their reasoning is correct, assumed or otherwise.

Results in the mixed-methods study were statistically significant at the 95% confidence interval for both content and interpreter credibility. Though statistics alone cannot speak to causation, feedback from the interpreters during post-survey interviews showed that the interpreters perceived a positive impact of touch on the receptivity of the message. M1 shared a comment of their impression that the use of AIT “got people more receptive to the message” and that AIT “seemed to open up the gate for a lot more post-[program] discussion.” Again, researchers are hesitant to recognize this observation as unbiased fact, but it does show that interpreters viewed the use of AIT favorably in some circumstances. One interpreter was uncomfortable using AIT toward the end of the mixed-methods study. This could have been a result of the intensity of the experimental design, but it does highlight that using AIT is two-way and the interpreter must be

comfortable in order to use it effectively. In addition, much research has been conducted on the comfort of those receiving touch, this highlights the need for additional research on those *giving* AIT.

From each angle of the study, it appears that AIT can be used in concert with other techniques of establishing rapport to increase the perception of the interpreter and the believability of the message. This is consistent with the Stern and Powell (2013) study that indicated a high correlation between a visitor's satisfaction with the program and the perception of the interpreter as a friend.

Additionally, while there was a statistically significant impact on the credibility of the interpreter and the perception of the message using AIT in large groups, researchers recognize that there may be limitations and awkwardness using AIT in groups sizes greater than 15 people with similar spatial and time-bound parameters. Other variables that were examined and produced statistically significant results included participant gender and age. Females rated interpreters more highly in general and the youngest age group rated interpreters lower than other age groups. Researchers also recognized that gender and age impacted scoring independent from one another. Other variables that could have impacted scoring were participant race and participant ethnicity. P-values indicated participant race and ethnicity did not broadly impact scoring at a statistically significant level. Part of this was due to a low race and ethnicity sample sizes. The gender of the interpreter did not play a statistically significant role in scoring either: p-values ranged from 0.171 to 0.844 in the control group and 0.411 to 0.939 in the experimental group. Because these variables (participant ethnicity and interpreter

gender) had no statistically significant difference on scoring, they can be treated as a constant in the experiment and perhaps give further credence that AIT affected the results independent of other variables. As expected, individual interpreters had variations in scoring; only the interpreter credibility scores were significantly different. These demographic variables cannot be altered by an interpreter, unlike AIT which is an optional tool that is easily implemented.

### Limitations

Like all research, there is a need to challenge these findings to determine whether the use of AIT *caused* higher scores. To do this, researchers recommend replicating this study in other parks and conducting research in other platforms besides interpretive talks. They must point out other limitations in the study to ensure it is understood in the appropriate context. First, this is the first attempt to understand the impact of AIT on audiences at interpretive programs. While the survey design attempted a holistic approach to understand the role of AIT in the field, it is recognized that this research could be expanded upon greatly. First, this research was conducted in only one nature park in western North Carolina during one month. Additional research in other parks and programs would be worthwhile to uphold or better understand the role of AIT in the field of interpretation. Another limitation noticed was isolating AIT as a variable in experimental groups. As mentioned in the literature, AIT works in concert with other techniques, such as small talk, eye contact, facial expressions, etc. While researchers recognize the benefits of AIT, they acknowledge that AIT is best used as a platform to show friendliness and to welcome visitors. The results could also be understood this

way: personal exchanges that included AIT prior to a program may increase the perception of the message and the perception of the interpreter in a program. While researchers were able to capture some degree of diversity in the surveys, most of the audience was white and non-Hispanic—this limits one’s ability to discern the impact on visitors at sites that have more diversity. Another limitation that the interpreters shared during their post-study interviews is the challenge and repetition of shaking hands. One interpreter shared the challenges of intentionally shaking hands with many visitors and expressed concern that visitors perceived the interpreter’s anxiety when shaking their hands. The challenge of intentionally shaking everyone’s hand is a product of the experimental environment created. Based on the feedback received, this helped researchers understand that AIT may be best used in small groups (5-15 individuals) in similar settings. One final limitation may have been how participants defined one of the adjectives. Researchers noted a difference in how one views the adjective “Authoritative.” This word has at least two definitions, and participant age may have impacted the view and resulting scoring. One definition is “able to be trusted as being accurate and true.” This definition was the researchers’ view; however, younger participants may have viewed the word as meaning “commanding and self-confident.” If this study is replicated, this word should be defined or substituted with another word.

### Recommendations

A final consideration is whether AIT could be implemented as a training tool in the field of interpretation. Since AIT is an effective tool used to establish credibility or rapport, how could the tool be communicated or implemented effectively and clearly to

frontline interpreters? Researchers recommend that this topic is addressed and modeled in interpretive trainings to share its validated role in establishing rapport with park visitors as well as the benefits that come with that relationship: a higher perception of the message and the interpreter. In the process, the other immediacy techniques could be reviewed. They find it valuable to communicate the limitations of its use as well—establishing a handshake as the best form of AIT and its use with adults only.

Addressing the use of AIT in adults versus children could lead to a clearer understanding of boundaries among staff—this will ensure practices are park-directed rather than interpreter-directed. Based on feedback from staff, AIT may be a better training tool in its use with small audiences—especially in programs reliant on audience input and interaction such as facilitated dialogue experiences. Regarding facilitated dialogue, AIT may be a simple and effective way to lay a foundation of trust and ease to visitors prior to the community-building portion of the Arc of Dialogue. Researchers are very interested in studying the degree of engagement in facilitated dialogue experiences with and without the presence of AIT. Because the study showed a low degree of diversity among its visitors, researchers are also interested in studying the use of AIT in other culture groups—particularly in other countries.



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## APPENDIX A

### Focus Group Responses

#### FG-1 Responses

1. Do you think AIT could or should be used as a means of establishing credibility or rapport with a visitor?

*I think it could be used depending on the personality and demeanor of the interpreter. I've found a good number of visitors who will initiate a handshake during informal visitor contacts, or occasionally before a formal interpretive talk/walk. I think the handshake, in particular, can signal a mutual respect between people as well as a sign of welcome. In a business setting a handshake seems to bring an air of professionalism to the meeting room, a way of acknowledging everybody's presence. I think it could serve a similar purpose in an interpretive setting as well. Many visitors don't expect AIT though because they see our work as more informal and a handshake somehow seems more formal.*

2. Why don't you think appropriate interpersonal touch (AIT) has been studied or implemented as a practice in the field of interpretation?

*Especially with children and youth, many interpreters avoid touch because they fear it could be misconstrued as inappropriate. For some introverted adults, a handshake can be seen as a bold action to take between two strangers...even if it is a friendly setting. I think most interpreters have been trained (either explicitly or implicitly) to avoid touching the visitor. Maybe that is because we fear it may invade a visitor's personal space?*

3. If you have practiced frontline interpretation, how often have you used AIT in interpretive programming and/or informal interactions in the past? Please **bold** your response.

Never

Rarely

**Sometimes**

Often

## FG-2 Responses

1. Do you think AIT could or should be used as a means of establishing credibility or rapport with a visitor?

*Yes.*

2. Why don't you think appropriate interpersonal touch (AIT) has been studied or implemented as a practice in the field of interpretation?

*I don't think that touch, in general, is widely used in professional settings.*

*Also, most of us in environmental education receive anti-child abuse training that discourages inappropriate touch, but also (at least in my experience) discourages touch overall.*

3. If you have practiced frontline interpretation, how often have you used AIT in interpretive programming and/or informal interactions in the past? Please **bold** your response.

Never      Rarely      Sometimes      **Often**      Always

## FG-3 Responses

1. Do you think AIT could or should be used as a means of establishing credibility or rapport with a visitor?

*Yes, it make[s] one feel like a part of a family.*

2. Why don't you think appropriate interpersonal touch (AIT) has been studied or implemented as a practice in the field of interpretation?

*Because we have become a no touch society.*

3. If you have practiced frontline interpretation, how often have you used AIT in interpretive programming and/or informal interactions in the past? Please **bold** your response.

Never      Rarely      Sometimes      **Often**      Always

#### FG-4 Responses

1. Do you think AIT could or should be used as a means of establishing credibility or rapport with a visitor?

*Yes.*

2. Why don't you think appropriate interpersonal touch (AIT) has been studied or implemented as a practice in the field of interpretation?

*I believe AIT has great potential for establishing rapport and credibility with visitors, but it must be under the right circumstances. As professionals, we interact with visitors from countless ethnic and social backgrounds on a daily basis; the reason I think it has not been studied and implemented universally in the interpretation field is because it is impossible to be entirely sure of its acceptance in all culture groups. I believe AIT can be effective if used in association with excellent interpersonal skills and customer service. Based upon my experience, the handshake method is more appropriate when among diverse audiences.*

3. If you have practiced frontline interpretation, how often have you used AIT in interpretive programming and/or informal interactions in the past? Please **bold** your response.

Never

Rarely

Sometimes

**Often**

Always

## APPENDIX B

### Post-Study Interview Results

#### M1 Interview

1. Describe your level of comfort using a handshake to establish rapport. Why was your level of comfort (low / high)?

I am very comfortable with using AIT to establish rapport with an audience. I think it's just a good sign—a good step—to open up people to receive your information—the material that you're sharing. I think it's just perfect. It's a great way to relate to people—to know that they can trust you with the information you're sharing. Yes, I will be upfront and say that it was different than my previous experiences were—especially the focus on intention. Intentionally seeking out and talking with all the people who showed up for the programs. It was overwhelming at times—it was such a confined area. People would be passing by you left and right and you wanted to be sure that you can reach out to make sure you touched everyone. It was a little out of my comfort zone, but I see how valuable it is.

2. Do you plan to use a handshake in future programs after seeing how this worked? Why or why not?

I plan to use it in the future—maybe not as much on that high of a level. If there are smaller groups—say maybe up to 5-15 individuals, I definitely think that is well within reason. To be upfront with people, I think back to previous experiences outside of the survey and it has worked really well. I think it's just a great step forward.

3. Is there anything else you'd like to share about the use of touch in your programs?

What I'd like to share about it is It's a great tool for interpreters in the field; it goes hand in hand with the educational component of it. Like I've already said, when it's done correctly, I think it is very valuable.

## M2 Interview

1. Describe your level of comfort using a handshake to establish rapport. Why was your level of comfort (low / high)?

It started off at the beginning of the study being pretty uncomfortable—doing, approaching each individual person and extending that handshake with the expectation that they would respond in a similar way. As the study progressed, I did get more comfortable with it. Mostly it was being comfortable with my hand just left extended out toward them. That pause—which at first seemed like an awkward imposition, but I got more comfortable with it. As neighboring people recognized what was going on, they were more eager to accept the handshake and even reached out toward me. Certainly, that was a growth step on my part.

2. Do you plan to use a handshake in future programs after seeing how this worked? Why or why not?

I probably am not going to use this. Given societal norms currently, I think this is a bit more of an imposition that I would like to render on people.

If there was a smaller group or part of the same social group or maybe just two or three groups, it would be less of an imposition. It would be easier to be efficient about it too, but given the time constraint and the big number of people we have with those encounters, make it more challenging to be able to incorporate that.

3. Is there anything else you'd like to share about the use of touch in your programs?

I think it alerted people the formality of the presentation. And kind of alerted people that it was going to be something bigger than tossing treats to bears. My impression is that it got people more receptive to the message and they certainly got comfortable. On the encounters, people were more comfortable sharing afterwards. That connection somehow seemed to open up the gate for a lot more post-encounter discussion.



## F2 Interview

1. Describe your level of comfort using a handshake to establish rapport. Why was your level of comfort (low / high)?

As far as the survey goes, in the programs that we used for the survey, the use of touch seemed not inappropriate but didn't seem as natural. I do think touch is a useful way to establish rapport with smaller groups. When I did have a smaller group—like the 11:00 bear program, I thought it was much more effective and useful. You could really look that person in the eye and have a good, strong handshake versus when you are going down this line of 100 people and it seemed like it fit less.

2. Do you plan to use a handshake in future programs after seeing how this worked? Why or why not?

What I like about the study is that we could see the results. We could kind of see our own results and see what was effective and what effective. I really got to see that when I used it with a smaller group that it seemed there was this positive effective and that there was more buy-in. More of them wanted to do the survey afterwards and all kinds of things. Since then, when I have had smaller groups—like for the Wonders of the Winter World—I have done that. It doesn't seem to be out of place. It seems to be very welcoming and well-received. I don't think that I will use it with groups larger than say 10 people.

3. Is there anything else you'd like to share about the use of touch in your programs?

It was an interesting way to do some self-reflection and to think about how others perceive you. It was a little awkward at times, but I'm glad I participated.

F1—selected comments from a more informal interview

I feel like it negatively affects my programs, but also I feel like they sense that it's uncomfortable for me to shake hands, so I don't get as many returns for survey completion when I do shake everyone's hand.

People may not want a handshake because they're afraid of getting sick or they just don't like handshakes. So the challenge is what do you do in those situations?

So you weren't comfortable giving a handshake to visitors?

Not a visitor—just everybody. It's more of the fact that I need to shake everybody's hand—not just one or two people that I'm talking to and getting a rapport with. It's like welcome, welcome...it's repetitive and it's just uncomfortable to me to go to every single person. It's forced.

## APPENDIX C

Program Survey

Expected Completion Time: 3 minutes

Study Conducted by Mickey Shortt, Jr., a Master's Candidate at Stephen F. Austin State University

By returning this survey, you are taking part in this research project which aims to understand factors related to message and interpreter credibility. By taking part in this study, you are agreeing to complete the survey accurately and honestly to the best of your ability. **Please complete parts 1-3 first. Then flip over to complete part 4 if available only after completing the other parts.**

**Part 1: Circle one number per row below in response to this question:**How well do the following adjectives describe the content of the program?

	1	2	3	4	5	6	7
	describes poorly			describes somewhat			describes extremely well
Accurate	1	2	3	4	5	6	7
Authentic	1	2	3	4	5	6	7
Believable	1	2	3	4	5	6	7

**Part 2: Circle one number per row below in response to this question:**How well do the following adjectives describe the person leading the program?

	1	2	3	4	5	6	7
	describes poorly			describes somewhat			describes extremely well
Authoritative	1	2	3	4	5	6	7
Reliable	1	2	3	4	5	6	7
Reputable	1	2	3	4	5	6	7
Trustworthy	1	2	3	4	5	6	7

**Part 3  
Demographics****Age Group**

- ☐ 18-29  
☐ 30-49  
☐ 50-69  
☐ 70 or over

**Gender**

- ☐ Female  
☐ Male

**Race**

- ☐ American Indian or Alaska Native  
☐ Asian  
☐ Black or African American  
☐ Native Hawaiian or Other Pacific Islander  
☐ White  
☐ Other: \_\_\_\_\_

**Ethnicity**

- ☐ Hispanic  
☐ Non-Hispanic

By returning this survey, you agree with the following: I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. I understand that this research may be included in a research article, but that no identifying information will ever be reported. I also understand that my participation is voluntary, that I can choose not to participate in part or all of the survey, and that I can withdraw at any stage of the survey without being penalized or disadvantaged in any way. I understand that once I complete and submit the survey, I am no longer able to withdraw my participation. We greatly appreciate your assistance. If you have any questions or concerns about this research study, please feel free to contact Dr. Laird by telephone at 936-468-2014 or via e-mail at [lairdsg@sfasu.edu](mailto:lairdsg@sfasu.edu). Any concerns with this research may be also be directed to the Office of Research and Sponsored Programs at 936-468-6606.

**Part 4**

Did the park interpreter provide a handshake to you prior to the program?

- ☐ No
- ☐ Yes

Do you think this affected your perception of the message the interpreter provided?

- ☐ No
- ☐ Yes

Why or why not?

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Do you think this affected your perception of the interpreter?

- ☐ No
- ☐ Yes

Why or why not?

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## VITA

After graduating with a Bachelor of Science in biology from Lees-McRae College Banner Elk, NC, Mickey Shortt, Jr. began serving as an interpretive park ranger with the National Park Service. He served in Yosemite National Park, Wright Brothers National Memorial and Cape Hatteras National Seashore. He then served as the Director of Education with the Grandfather Mountain Stewardship Foundation before moving to Maine and serving in Acadia National Park. He began studying resource interpretation at Stephen F. Austin State University in 2013. He is a National Association for Interpretation Certified Interpretive Trainer and past board member with the Carolina Bird Club. He received his degree of Master of Science in May of 2017.

Permanent address: 967 Brewer Lake Road  
Orrington, ME 04474

APA

This thesis was typed by Mickey Shortt, Jr.